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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/677,332	FRANCHI ET AL.	
	Examiner	Art Unit	
	Eric Woods	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 2/12/2007.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26 and 28-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26 and 28-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/12/2007 has been entered.

Response to Arguments

Applicant's arguments, see Remarks pages 1-6 and claim amendments, filed 2/12/2007, with respect to the rejection(s) of claim(s) 1-26 and 28-53 under 35 USC 103(a) have been fully considered and are persuasive.

Therefore, the rejection of claims 1-26 and 28-53 has been withdrawn.

However, upon further3 consideration, a new ground(s) of rejection against claims 1-26 and 28-53 is made in view of various references as set forth below.

The claim 1 as written does not exclude prior steps of rasterizing graphics data, receiving a user selection of a graphic that is then converted back to a location in a hierarchical data structure of the recited 'unrasterized base graphic data.'

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 21-22, 32, 44, and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoe (US 6,337,700) in view of Seidl (US 5,710,896 A).

As to claims 1, 52, and 53, (method, system, computer-program product), Kinoe teaches:

A computer-implemented method for highlighting a selected object on a display, the method comprising:

-Receiving unrasterized base graphic data comprising a selected graphic object to be highlighted; (Kinoe displays the original image on CRT 22 or like display (e.g. 2:60-63), where the system then determines what (if any) graphical object was initially selected by the user (2:64-3:15). In order for that to take place, 4:45-65, 9:45-10:20, etc, the system determines what graphical object is selected, wherein such a graphic object is represented in a non-rasterized format, e.g. data

structure Figures 3-5, etc. Highlight types in 9:57-10:30 are highlighted, translucent, and/or translucent highlighted modes.)

(a) Kinoe teaches:

-Providing selection graphic data including a graphic object corresponding to the selected graphic object; (Kinoe clearly sets forth that the specific object to be modified or selected is provided (13:65-14:15, for example). The term "providing" does not require any particular functionality, merely the existence of the recited object.)

(b) Kinoe does not expressly teach the counterpart graphical object, but Seidl clearly provides such a teaching: Seidl in Figure 3B shows several different buffer layers (8:25-67), wherein Seidl teaches that Seidl 19:64-20:5 clearly states the concept of having three buffers: one that represents the unselected objects, one that represents the selected objects, and a composite buffer that contains *a graphical image of the entire display for redrawing changed portions of the entire display for redrawing changed portions of the entire display image*)

Kinoe and Seidl provide the concept of the unrasterized graphical object. Seidl makes clear that graphic components are graphic **objects** that are not rasterized but rather are data structures – see Figures 2 and 3, 2:15-20, where component objects, defined in 7:2-23, are held in the Model class, and are not rasterized unless they are on a Canvas class. The selected object – shown surrounded by a bounding box in Figure 3 – is therefore an actual data structure rather than raster data. **Canvas class objects contain unrasterized data**! Clearly 8:25-40 states, in part: "...The canvas class also maintains data

structures which support pluggable updates. In particular, it maintains three lists that partition all components in the model into equivalence classes. 1. Background objects: all objects that are fully behind all objects currently selected. 2. Foreground objects: all objects that are fully in front of all objects currently selected. 3. Midground consists of all components not in the foreground background. Fig. 3B illustrates the components in the graphic model in accordance with a preferred embodiment. The canvas class performs draw functions **upon these objects** (8:45-67) to actually generate the contents of the buffers per se.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Kinoe reference to have an unrasterized version of the selection graphic object since both the Kinoe and Seidl references discuss the use of highlighting and compositing such objects and it would be much easier to manipulate and efficiently store the unrasterized version of the graphic object (e.g. graphic object data structure) of Seidl than a rasterized version thereof, since object-oriented programming provides data structures that are reusable and do not need to be recreated from scratch (e.g. the normal advantages of object-oriented programming, which Seidl extols (see Seidl 1:58-2:10, 2:62-7:65, particularly the use of the Model class (Figs 2-3, 6:45-7:65, etc)

Kinoe does teach rasterizing graphics, but does not expressly teach rasterizing a "base graphic" per se, specifically clearly teaching the limitations of rasterizing base graphic data, whereas Seidl teaches:

-Rasterizing the base graphic data to yield a base graphic raster;

(Seidl clearly sends such graphic components to Canvas objects, which belong to the buffers shown in (19:64-20:5), where such are drawn as explained in 8:25-67)

-Rasterizing the selection graphic data to yield a selection graphic raster; and

(Seidl 19:64-20:5, Figures 3-5 clearly states the concept of having three buffers: one that represents the unselected objects, one that represents the **selected objects**, and a composite buffer that contains *a graphical image of the entire display for redrawing changed portions of the entire display for redrawing changed portions of the entire display image*, wherein the Seidl clearly teaches the composite graphic raster, which is the 'first data store' of Seidl)

-Compositing the base graphic raster and the selection graphic raster to yield an output graphic raster for display, the output graphic raster including pixels representing a highlighting of the selected graphic object. (Seidl 7:25-9:15, 19:64-20:5, Figures 3-5, etc, clearly teaches that the non-selected and selected graphical objects are combined such that composite graphics raster has the changed objects overwritten by those in the selected graphical object register, as explained above)

Kinoe clearly teaches the above limitations of rasterizing base graphics data to provide a first initial view of the model, which is clearly stored in the frame buffer of the screen. Kinoe composites the highlighted object with the original base graphics raster so that it will be displayed on the screen, since the highlighted object is shown as being displayed.

Motivation to combine Seidl and Kinoe has already been provided above.

As to claims 21, firstly, Kinoe assigns highlighting values to graphical objects (see for example Fig. 4, the highlighting attribute 217 in graphical object state table 109), where a graphic object is prima facie composed of pixels, where clearly as set forth by Seidl the selected object would be in its own memory area (or selection raster) as set forth in the rejection to claim 1 as previously discussed, the rejection to which is incorporated by reference.

That is, Kinoe teaches changing an attribute of an object (which would exist in the selection graphics raster) by assigning a highlight value to it. Seidl clearly teaches that when the object was updated the Canvas class would call the updater of that particular Component object within the model. Updating and/or drawing changes would proceed in the manner set forth in Seidl 8:25-65. The changed object would then be drawn, as set forth in 8:45-67. It would be obvious to perform this limitation in this manner, e.g. to modify Kinoe, for the reasons set forth in the rejection to claim 1, which is incorporated by reference.

As to claim 22, A method according to claim 21 wherein altering values of pixels from the base graphic raster comprises replacing the values of pixels from the base graphic raster with the highlighting values of corresponding pixels in the selection graphic raster. Seidl 8:25-67, when the updater accesses an object and sends the write command, it will obtain a copy of the object in the database to alter, and when the alterations are complete, the object in the buffer will be updated with the more current version.

As to claim 2, Kinoe does not expressly teach: wherein providing the selection graphic data comprises copying the selected graphic object from the base graphic data. Seidl clearly teaches that the data in the selected graphics buffer is copied from the object-oriented tree, SEE FIGURE 3, thusly teaching that the selected graphic object is copied from the base graphics data.

As to claim 3, Kinoe teaches: wherein providing the selection graphic data comprises assigning a highlighting attribute to the copied selected graphic object. Kinoe clearly teaches this limitation in 2:52-60 and 3:1-28, where it is taught that objects are structured in a hierarchy on the display, and that such objects can have various attributes and uses the term 'translucent' to mean 'transparent' in certain contexts, for example in 9:57-10:30 it is clearly taught that the graphical objects can be in highlighted, translucent, and/or translucent highlighted modes. Clearly, this means that each object has an attribute to indicate whether or not it is highlighted.

As to claim 44, it would be obvious that if Kinoe can turn on highlighting by changing the highlighting attribute in the state table of Fig. 4, that clearly Kinoe could turn off highlighting in the same manner. Obviously, the change would be made to the layer that the object was on, and then those raster layers would be composited to form the output image as recited in the claim. Motivation and combination is taken from the rejection to claim 1.

As to claim 32, A method according to claim 8 wherein providing the selection graphic data comprises assigning a blank attribute to the copied non-selected objects. Kinoe teaches very clearly that the "highlighting attribute" 217

in graphical object state table 109 in Fig. 4 has a state of '0' or '1', that is, an object is either designated as highlighted ('1') or not ('0') – see 10:5-35. Objects by default are not highlighted (see for example Fig. 13). User selection and/or action result in highlighting attributes being enabled on specific parts (see Figs. 14 and 15 for example). As stated in the rejection to claim 1, which is incorporated by reference, the objects are copied in order to perform occlusion processing. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made that since objects by default are in a non-highlighted state, and that only the object that the user selects is highlighted, that such non-selected objects would have a blank attribute assigned to them, where the specification defines 'blank attribute' to mean 'non-highlighted.'

Claims 4-16, 28, 49 are rejected under 35 U.S.C. 103(a) as unpatentable over Kinoe in view of Seidl as applied to claim 3 above, and further in view of Kang et al (US 6,266,068 B1).

As to claim 4, 13, and 15, wherein rasterizing the selection graphic data to yield the selection graphic raster comprises assigning highlighting values only to pixels in the selection graphic raster corresponding to portions of the selected graphic object that are not overlapped by other non-transparent graphic objects. References Kinoe and Seidl do not expressly teach this limitation. However, it is well known in the art that three-dimensional graphics rendering systems such as Kinoe (15:47-60) do not display parts that are hidden from view or the portions that overlap thereof.

Kang et al (US 6,266,068 B1) clearly teaches the existence of multiple graphics planes in Figs. 2 and 3A-3E, and in 2:30-65, where as stated above, one of those layers could be the base graphics raster. Kang clearly teaches that users can select objects; see for example the intra-layer selector 106 in Fig. 1 as taught in 4:19-35. Kang teaches in 11:37-63 that a user can highlight a layer using the input device to select the layer in question, with each layer having a different depth (e.g. see for example Figs. 3A-3E with emphasis on Figs. 3C and 3D with the shaded ellipse having different depths in each, see for example 8:22-46).

Kang further teaches that his system can deal with complex occlusion scenarios (1:38-61), and this is noted in 4:20-35, where layers that occlude or are blended are disclosed, and in 7:10-30 the use of a painter's algorithm is disclosed, where this algorithm is well known in the art to ensure that objects in the scene occlude each other correctly based on depth, except where such objects are blended because they are partially transparent as set forth in 4:20-35 for example.

All that being said, it would be obvious to one of ordinary skill in the art at the time the invention was made that only the non-occluded portions of such an object would be drawn when a painter's algorithm or similar is used so that the scene is drawn in a realistic manner (excluding pixels that are blended as set forth above). Therefore, since only the portions of the selected graphical object that are not occluded will be drawn, (requires less system resources and is therefore inherently faster, more efficient, and requires less powerful hardware to

implement than its lack.) It would be obvious to only highlight the portions that are visible, as the rest of the object will not be drawn anyway.

As to claims 5, 11, and 16, firstly, Kinoe assigns highlighting values to graphical objects (see for example Fig. 4, the highlighting attribute 217 in graphical object state table 109), where a graphic object is prima facie composed of pixels, where clearly as set forth by Seidl the selected object would be in its own memory area (or selection raster) as set forth in the rejection to claim 1 as previously discussed, the rejection to which is incorporated by reference.

That is, Kinoe teaches changing an attribute of an object (which would exist in the selection graphics raster) by assigning a highlight value to it. Seidl clearly teaches that when the object was updated the Canvas class would call the updater of that particular Component object within the model. Updating and/or drawing changes would proceed in the manner set forth in Seidl 8:25-65. The changed object would then be drawn, as set forth in 8:45-67. It would be obvious to perform this limitation in this manner, e.g. to modify Kinoe, for the reasons set forth in the rejection to claim 1, which is incorporated by reference.

As to claim 6, a method according to claim 2 wherein providing the selection graphic data comprises copying from the base graphic data non-selected objects that overlaps the selected graphic object. Kinoe and Seidl do not expressly teach this limitation while Kang does. Firstly, the rejection to claim 4 is incorporated by reference in its entirety. As noted therein, occlusion processing is performed on graphical objects. Now, this occlusion processing of Kang that is well known in the art is performed during the rendering process.

Therefore, in order to perform occlusion processing, it would be obvious to one of ordinary skill in the art at the time the invention was made to copy objects that overlap with the selected object in order to perform occlusion processing for the reasons set forth in the rejection to claim 4 above.

As to claims 7 and 14, wherein the highlighting attribute comprises a color attribute. Clearly, Kinoe teaches that graphical objects have attributes, including highlighting and transparency, as established above. As is clearly shown in Fig. 13, no parts are highlighted, versus in Fig. 14 one part is highlighted, and it is very clear that the highlighting involves a change in color of the part from these drawings.

As to claim 8, Kinoe teaches: wherein providing the selection graphic data comprises assigning a highlighting attribute to the copied selected graphic object. Kinoe clearly teaches this limitation in 2:52-60 and 3:1-28, where it is taught that objects are structured in a hierarchy on the display, and that such objects can have various attributes and uses the term 'translucent' to mean 'transparent' in certain contexts, for example in 9:57-10:30 it is clearly taught that the graphical objects can be in highlighted, translucent, and/or translucent highlighted modes. Clearly, this means that each object has an attribute to indicate whether or not it is highlighted.

As to claim 9, A method according to claim 8 wherein providing the selection graphic data comprises assigning a blank attribute to the copied non-selected objects. Kinoe teaches very clearly that the "highlighting attribute" 217 in graphical object state table 109 in Fig. 4 has a state of '0' or '1', that is, an object

is either designated as highlighted ('1') or not ('0') – see 10:5-35. Objects by default are not highlighted (see for example Fig. 13). User selection and/or action result in highlighting attributes being enabled on specific parts (see Figs. 14 and 15 for example). As stated in the rejection to claim 1, which is incorporated by reference, the objects are copied in order to perform occlusion processing. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made that since objects by default are in a non-highlighted state, and that only the object that the user selects is highlighted, that such non-selected objects would have a blank attribute assigned to them, where the specification defines 'blank attribute' to mean 'non-highlighted.'

As to claim 10, A method according to claim 9 wherein rasterizing the selection graphic data comprises assigning highlighting values to pixels associated with objects having highlighting attributes and assigning non-highlighting values to pixels associated with objects having blank attributes. Graphical objects prima facie consist of pixels. Therefore, any objects that are assigned highlighting attributes will prima facie have their pixel assigned highlighting values, and likewise pixels in objects that have a highlighting attribute of '0' will be assigned non-highlighting (e.g. normal) values (Kinoe 10:5-35). Clearly, the objects are rasterized before they are sent to the display device, and clearly the graphical object properties are taken into account when the object is rasterized, and Kang teaches that objects are processed in such a way that rasterizing occurs after altering the various attributes to the desired end state,

which has to occur because of the Seidl discussion presented in the rejection to claim 1 in any case.

As to claim 12, a method according to claim 9 wherein the highlighting attribute and the blank attribute each comprise different color attributes. Kinoe clearly teaches this limitation as set forth in claim 8. Clearly the highlighted attribute is the dark color in Fig. 14 and the blank attribute is the light color, and clearly as taught by Kinoe as set forth in the rejection to claim 9 above, the state of the object when it is highlighted and not highlighted is different. Clearly, the difference in color as shown in Figs. 13 and 14 is sufficient proof that the color attributes are different.

As to claim 49, wherein rasterizing the selection graphic data comprises assigning highlighting values to pixels in an area of the selection graphic raster corresponding to the copied selected graphic object and compositing the base graphic raster and the selection graphic raster comprises patterning areas within the output graphic raster corresponding to the area of the selection graphic raster. The above claim recites the same limitations as covered in the rejections to claims 3 and 4, which are incorporated by reference while not including the occlusion or overlap portions of claim 4. The last limitation, “patterning areas” is being interpreted using the broadest reasonable interpretation, where “patterning” is taken to mean applying some kind of image, texture, color, etc., to a graphical object. Further it would be obvious that if a user could apply a color to highlight an object, a user could also apply a pattern (texture), which is well known in the art (Examiner takes Official Notice that such use of other

highlighting schema (e.g. different pattern, texture, image, etc) are well known in the art at and that the reason for doing so is that different types of highlighting may be more appropriate to different circumstances, serve as better identifiers within a cluttered environment, allow color-blind users to distinguish highlighting, and other motivations). Motivation and combination is taken from the rejections to claims 3 and 4 above.

Claims 17-20 are rejected under 35 U.S.C. 103(a) as unpatentable over Kinoe and Seidl as applied to claim 2 above, and further in view of Iwema et al (US PGPub 2003/0214539 A1).

As to claim 17, comprising simplifying the copied selected graphic object. References Kinoe and Seidl do not expressly teach this limitation. Reference Iwema teaches a method of highlighting objects, wherein such objects are simplified, as in paragraph [0053], and the graphics of the objects are simplified, as in the last part of the paragraph, where alternative embodiments of the graphical objects can simply change the object to a predetermined color.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Kinoe and Seidl references with Iwema as above for the reason that Iwema teaches improved methods for highlighting objects, and further teaches that simplifying graphical objects make it easier for them to be processed, e.g. requires less resources.

As to claim 18, a method according to claim 17 where simplifying the selected graphic object comprises setting a plurality of color attributes of the selected graphic object to specify one color. Reference Iwema clearly teaches

this limitation in [0053], where it is set forth that the object could be made transparent, thusly have a background of red with white stripes (a plurality of color attributes) or other configuration, and that it is then set to a single predetermined color, which clearly meets the limitations of the recited claim, and motivation comes from the claim 17.

As to claims 19 and 20, a method according to claim 17 wherein an exposed portion of the selected graphic object has an outline and simplifying the selected graphic object comprises replacing the selected graphic object with a shape bounded by the outline. Clearly, any object shown on the screen will have an outline (e.g. a graphical object must prima facie have bounds upon it so that it can be properly drawn or rendered (see Kinoe for this)), but Kinoe/Seidl do not expressly show this. The system of Iwema clearly teaches that objects can be surrounded with a halo around their outline in [0011-0015]. Further, it is taught that the body of the object can be turned into a predetermined background color, which would imply that the object would be replaced by a shape with that the color – or the bottom window shown in Fig. 2 and designated with cross marks through it. Therefore, for the reasons stated above with reference to claim 17 cited from the Iwema reference, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kinoe/Seidl in the manner suggested therein as above, with motivation and rationale taken from the rejection to claim 17, which is incorporated by reference.

Claims 21, 23-26 and 39 are rejected under 35 USC 103(a) as unpatentable over Kinoe in view of Seidl as applied to claim 21 above, and further in view of Priem.

As to claim 23, A method according to claim 21 wherein altering values of pixels from the base graphic raster comprises, for each pixel to be altered, computing a function to modify the value of the pixel to be altered, the function based on at least one of: the value of the pixel to be altered and the highlighting value of the corresponding pixel in the selection graphic raster. Reference Kinoe teaches that each graphical object is defined by a function (see Fig. 3, object definition data 203). Reference Priem teaches that the raster planes are combined using Boolean operations – see Priem 1:5-21 and the abstract for example. It is well known in the art to use Boolean functions to combine raster objects (5:17-25). Therefore, it would have been obvious to one for ordinary skill in the art at the time the invention was made to modify Kinoe/Seidl to function in the manner recited in the Priem reference because it adds a more flexible compositing operation.

As to claim 24, a method according to claim 23 wherein the function comprises color inversion of the value of the pixel to be altered. Kinoe and Seidl do not expressly teach this limitation, but Priem further teaches that objects have foreground and background colors (see abstract) and that drawing planes can be drawn or painted in an inverted (e.g. color-inverted) mode using a Boolean operation (see for example Table 1, 3:35-50), as separate from the 'draw

reversed' command), which clearly meets the limitations of this claim. Motivation and rationale are taken from the rejection to claim 23 above.

As to claim 39, Seidl teaches this limitation (15:45-50, 64-65) as rendering means.

As to claim 25, a method according to claim 23 wherein the function comprises performing one of a plurality of available color modification operations and wherein computing the function to modify the value of the pixel to be altered comprises selecting one of the plurality of available color modification operations based on the highlighting value of the corresponding pixel in the selection graphic raster and applying the selected color modification operation to the value of the pixel to be altered. Kinoe / Seidl does not expressly teach this limitation, while Priem teaches a plurality of Boolean operations to be used upon raster drawing planes (see for example Abstract and Table 1 – 3:35-50). Drawing planes can be drawn or painted in an inverted (e.g. color-inverted) mode using a Boolean operation (see for example Table 1, 3:35-50), e.g. to choose the color values and patterns that such highlighting and/or inversion will take and/or use, which would allow the user to more easily perceive highlighting and/or choose colors and/or patterns that the user(s) find aesthetically pleasing and/or easier to see and/or to use (for instance, if the user were colorblind, the use of colors to differentiate highlighting would not be very useful).

As to claim 26, a method according to claim 25 wherein the plurality of color modification operations comprises one or more of: performing color inversion on the value of the pixel to be altered; increasing the value of the pixel

to be altered by a predetermined amount; decreasing the value of the pixel to be altered by a predetermined amount; and, setting the value of the pixel to be altered to a predetermined value. Kinoe/Seidl do not teach this limitation. Priem teaches color inversion on pixels to be altered (Table 1, 3:35-50). Motivation and combination is taken from the rejection to the parent claim and from motivation in claim 24.

As to claims 21, firstly, Kinoe assigns highlighting values to graphical objects (see for example Fig. 4, the highlighting attribute 217 in graphical object state table 109), where a graphic object is prima facie composed of pixels, where clearly as set forth by Seidl the selected object would be in its own memory area (or selection raster) as set forth in the rejection to claim 1 as previously discussed, the rejection to which is incorporated by reference.

That is, Kinoe teaches changing an attribute of an object (which would exist in the selection graphics raster) by assigning a highlight value to it. Seidl clearly teaches that when the object was updated the Canvas class would call the updater of that particular Component object within the model. Updating and/or drawing changes would proceed in the manner set forth in Seidl 8:25-65. The changed object would then be drawn, as set forth in 8:45-67. Motivation is taken from the rejection to claim 1, which is incorporated by reference.

Claim 28 is rejected under 35 U.S.C. 103(a) as unpatentable over Kinoe in view of Seidl and Priem as applied to claim 23 above, and further in view of Kang et al (US 6,266,068 B1).

As to claim 28, wherein rasterizing the selection graphic data to yield the selection graphic raster comprises assigning highlighting values only to pixels in the selection graphic raster corresponding to portions of the selected graphic object that are not overlapped by other non-transparent graphic objects. References Kinoe, Seidl, and Priem do not expressly teach this limitation. However, it is well known in the art that three-dimensional graphics rendering systems such as Kinoe (15:47-60) do not display parts that are hidden from view or the portions that overlap thereof.

Kang et al (US 6,266,068 B1) clearly teaches the existence of multiple graphics planes in Figs. 2 and 3A-3E, and in 2:30-65, where as stated above, one of those layers could be the base graphics raster. Kang clearly teaches that users can select objects; see for example the intra-layer selector 106 in Fig. 1 as taught in 4:19-35. Kang teaches in 11:37-63 that a user can highlight a layer using the input device to select the layer in question, with each layer having a different depth (e.g. see for example Figs. 3A-3E with emphasis on Figs. 3C and 3D with the shaded ellipse having different depths in each, see for example 8:22-46).

Kang further teaches that his system can deal with complex occlusion scenarios (1:38-61), and this is noted in 4:20-35, where layers that occlude or are blended are disclosed, and in 7:10-30 the use of a painter's algorithm is disclosed, where this algorithm is well known in the art to ensure that objects in the scene occlude each other correctly based on depth, except where such

objects are blended because they are partially transparent as set forth in 4:20-35 for example.

All that being said, it would be obvious to one of ordinary skill in the art at the time the invention was made that only the non-occluded portions of such an object would be drawn when a painter's algorithm or similar is used so that the scene is drawn in a realistic manner (excluding pixels that are blended as set forth above). Therefore, since only the portions of the selected graphical object that are not occluded will be drawn, (requires less system resources and is therefore inherently faster, more efficient, and requires less powerful hardware to implement than its lack.) Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to only highlight the portions that are visible, as the rest of the object will not be drawn anyway.

Claim 45 is rejected under 35 U.S.C. 103(a) as unpatentable over Kinoe / Seidl as applied to claim 1 above, and further in view of Good et al (US PGPub 2003/0156124).

As to claim 45, It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Good with the invention of Kinoe / Seidl, because Good teaches methods of highlighting objects that include flashing – [0076], which would allow the user to more easily perceive highlighting and/or choose colors and/or patterns that the user(s) find aesthetically pleasing and/or easier to see and/or to use (for instance, if the user were colorblind, the use of colors to differentiate highlighting would not be very useful). See MPEP 2144.04(I).

Claims 29-30 and 40-41 are rejected under 35 U.S.C. 103(a) as unpatentable over Kinoe / Seidl in view of Priem as applied to claim 23 above, and further in view of US 5,438,552 to Audi et al.

As to claim 29, A method according to claim 23 wherein compositing the base graphic raster and the selection graphic raster comprises identifying contiguous regions of pixels in the base graphic raster where corresponding pixels in the selection graphic raster have highlighting values. References Kinoe/Seidl do not teach this limitation expressly. Reference Audi teaches a method for identifying regions of contiguous pixels that are the same such that they can be displayed and separated from the rest of the base graphic regions (background)-see Figures 9 et al, and 8:55-9:65. This would be effective for the case where there are multiple parts or objects in the base graphics raster that are highlighted and that need to be processed; such a technique would be fast and allow easy segmentation of the elements to be easily matched with the objects in the selection graphics raster or layer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the systems of Kinoe/Seidl with that of Audi utilizing the contiguous region extraction method of Priem for the reason that Priem allows easy extraction of contiguous regions 8:55-9:55, where it is taught that such methods can segment out foreground image regions, which correspond to the foreground colors or images of Priem (1:5-25) for example.

As to claim 40, K/L/S do not expressly teach this limitation, but Reference Audi teaches that a processor (10:44-45) uses an algorithm (9:1-12:63) to

identify contiguous regions of pixels (8:53-9:20) and put them in one layer and then put the rest of the pixels in another layer (Figure 9a), e.g. a method for identifying contiguous regions of pixels in the base graphics as recited in present limitation. Motivation is taken from the rejection to claim 39 above.

As to claims 30 and 41, A method according to claim 29 wherein altering values of pixels from the base graphic raster comprises altering values of a pattern of selected pixels in the contiguous regions of pixels in the base graphic raster. Kinoe and Seidl-Priem do not expressly teach this limitation, but Audi clearly teaches highlighting different regions with different colors. Therefore, it would be obvious to allow the user the choice of color or pattern to apply to illustrate highlighting. See MPEP 2144.04(I).

Claims 34-37 are is rejected under 35 U.S.C. 103(a) as unpatentable over Kinoe in view of Seidl as applied to claim 1 above, and further in view of Goodwin et al (US 5,818,975).

As to claim 34, the rejection to claim 1 is incorporated by reference. The additional limitation of deleting non-selected objects is taught by Goodwin as in Figures 5 and 6, where regions that were NOT R2 or NOT R1 are deleted from the respective images, and replaced with an average R2 or R1 value. Clearly, the idea of deleting objects that do not meet specified criteria is taught by Goodwin, and it would be obvious that if non-highlighted portions had a different dynamic range, they would be deleted. It would be obvious that one layer containing foreground objects could extract those alone simply by applying an

OR operation to the foreground and background raster planes, which would be of great use in techniques such as chroma-keying, which are well known in the art.

Motivation to combine is taken from the fact that Goodwin would allow the system of Kinoe and Seidl so that it could support high dynamic range images that had a higher dynamic range than the monitor by allowing the user to select desired regions of one specificity such that they would be deleted, for example in cases with high-dynamic range images from professional-grade digital cameras.

As to claim 35, Kinoe teaches: wherein providing the selection graphic data comprises assigning a highlighting attribute to the copied selected graphic object. Kinoe clearly teaches this limitation in 2:52-60 and 3:1-28, where it is taught that objects are structured in a hierarchy on the display, and that such objects can have various attributes and uses the term 'translucent' to mean 'transparent' in certain contexts, for example in 9:57-10:30 it is clearly taught that the graphical objects can be in highlighted, translucent, and/or translucent highlighted modes. Clearly, this means that each object has an attribute to indicate whether or not it is highlighted. Clearly such objects are copied.

As to claim 36, this claim has the same rationale as the rejection to claim 32, which is incorporated by reference.

As to claim 37, clearly the highlighted attribute is the dark color in Fig. 14 and the blank attribute is the light color, and clearly as taught by Kinoe as set forth in the rejection to claim 9 above, the state of the object when it is highlighted and not highlighted is different. Clearly, the difference in color as shown in Figs. 13 and 14 is sufficient proof that the color attributes are different.

Kinoe Figs. 13-15, both the highlighting attribute and the lack thereof are clearly color attributes, and in this case they are the opposite setting of each other.

Claim 33 is rejected under 35 USC 103(a) as unpatentable over Kinoe, Seidl, and Goodwin as applied to claim 32 above, and further in view of Priem.

As to claim 33, clearly as set forth in Kinoe, non-selected / highlighted parts are one color and highlighted/selected parts are another. However, color inversion *per se* as a means of highlighting is not taught in Kinoe/Seidl/Goodwin. Furthermore, if the highlighting comprised the inversion taught in Priem (for example, Table 1, 3:35-50), then obviously that would constitute a color attribute since it obviously increases the contrast ratio. The instant specification defines 'blank attribute' to mean 'non-highlighted.' [0064]. The objects of Kinoe have this highlighting attribute and maintain a highlighted or non-highlighted state.

Claims 38 and 42-43 are rejected in view of Kinoe and Seidl as applied to claim 1, and further in view of Altman (US PGPub 2004/0163042 A1, EFD 07/26/00).

As to claim 38, Kinoe and Seidl do not expressly teach two files containing the base graphics and the highlighted objects. Altman teaches the use of a second file that contains highlighted objects [0045] that are then overlaid onto the first file and composited with it [0054, claim 1]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kinoe / Seidl to use such functionality because it allows highlights and comments to be stored without affecting changes in the original base document / file / etc. [0045]

As to claims 42, Kinoe/Seidl do not expressly teach but Altman teaches PDF files for such annotations and original base documents – see Figure 1, [0005-0007, **0008-0009 specifically**]. Motivation taken from the rejection to claim 38, which is incorporated by reference.

As to claim 43, examiner takes Official Notice that it would have been obvious to store such information in tags because it facilitates easy search and retrieval of the secondary documentation and because this is a standard format for storing textual information in other computer languages.

Claims 46-47 are rejected under 35 U.S.C. 103(a) as unpatentable over Kinoe in view of Seidl as set forth in the rejection to claim 1 above, and further in view of Spriggs et al (US 6,421,571 B1).

As to claim 46, A method according to claim 1 wherein the base graphic raster includes a plurality of selected graphic objects to be highlighted, the plurality of selected graphic objects including at least graphic objects of first and second types and wherein providing the selection graphic data comprises providing in the selection graphic data an object corresponding to each of the plurality of selected graphic objects and assigning a highlighting attribute to each of the objects, the method comprising assigning different highlighting attributes to objects corresponding to graphic objects of the first and second types. Kinoe and Seidl do not expressly teach this limitation. Reference Spriggs is directed to the same problem-solving area, that is the effective communication of information concerning graphical objects using highlighting. Further, in claims 9-11, Spriggs teaches that various graphical objects of different types are shown on the screen

in a hierarchical fashion, and further that such objects are known to have different colors assigned to them based on their state, and that the use can highlight them. In light of Spriggs and MPEP 2144, and the above reasons, it would have been obvious to one of ordinary skill at the time the invention was made to combine the systems of Kinoe and Seidl with Spriggs, as the system of Spriggs would allow the user to highlight different types of graphical objects and 'drill down' to get to the desired part or object, and to do so with two or more different types of part present in one scenario, whereas in Kinoe only one type of object can be highlighted per pass and clearly distinguished, since only one color is utilized.

As to claim 47, clearly if one object can be copied, a plurality of objects can be copied, where it would be obvious to have a plurality of selected graphic objects if one object exists. Motivation incorporated from the parent rejection, which is incorporated by reference

Claim 48 is rejected under 35 U.S.C. 103(a) as unpatentable over Kinoe, Seidl, and Spriggs as applied to claim 47 above, and further in view of Iwema.

As to claim 48, a method according to claim 47 wherein copying the plurality of selected graphic objects comprises simplifying one or more of the plurality of selected graphic objects. Clearly, any object shown on the screen will have an outline (e.g. a graphical object must prima facie have bounds upon it so that it can be properly drawn or rendered (see Kinoe for this)), but Kinoe/Seidl do not expressly show this. The system of Iwema clearly teaches that objects can

be surrounded with a halo around their outline in [0011-0015]. Further, it is taught that the body of the object can be turned into a predetermined background color, which would imply that the object would be replaced by a shape with that the color – or the bottom window shown in Fig. 2 and designated with cross marks through it. Therefore, for the reasons stated above with reference to claim 17 cited from the Iwema reference, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kinoe/Seidl in the manner suggested therein as above.

Claim 50 is rejected under 35 U.S.C.103 (a) as obvious over Kinoe, Seidl, and Kang in view of AAPA. (Applicant did not challenge this taking of Official Notice in the last Office Action; therefore it stands as applicant admitted prior art (AAPA)).

As to claim 50, A method according to claim 49 comprising creating a plurality of output graphic rasters, for each of the plurality of output graphic rasters differently patterning the areas within the output graphic raster, and displaying the plurality of output graphic rasters in rotation. The references applied to claim 49 do not expressly teach this limitation. However, it is well known in the art of web design to have animated GIF (BMP, JPEG) images, utilizing the HTML 4.0.1 standard tag <img alt="animated eyes" src="eyes.gif" border="0" width="24" height="12"> as an example. It would have been obvious to combine Kinoe/Seidl/Kang and AAPA to use this system for displaying graphics from the web, e.g. showing web page and/or using the system for graphic WYSIWYG layout of webpages and/or graphics overall.

Claim 51 is rejected under 35 U.S.C. 103(a) in view of Kinoe and Seidl in view of Iwema.

As to claim 51, A method according to claim 1 wherein the base graphic raster has a higher resolution than the selection graphic raster. Kinoe and Seidl do not expressly teach this limitation while Iwema in [0078] teaches that in some embodiments that highlighting halo may be anti-aliased for improved resolution, which clearly requires that the halo be composited at a different resolution than the monitor (e.g. super-sampling). Iwema teaches a glow / halo around a highlighted object that makes it more noticeable. This effect would clearly be useful in the system of Kinoe and make highlighted parts more visible. [0011-0015], Fig. 2, as with designated with cross marks through it. The combination would thusly have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kinoe and Seidl to use the halo effect of Iwema for the reasons above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Woods whose telephone number is 571-272-7775. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Eric Woods

May 25, 2007

Ulka Chauhan
Supervisory Patent Examiner